



Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Long Branch Creek

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#### Water Body Segment at a Glance:

**County:** Macon  
**Nearby Cities:** Atlanta  
**Length of impaired segment:** 13 miles  
**Length of impairment within segment:** 2 miles  
**Pollutant:** Low Dissolved Oxygen  
**Source:** Atlanta Wastewater Treatment Plant, or WWTP  
**Water Body ID:** 0696



State Map Showing Location of Watershed

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**Scheduled for TMDL development:** 2016

#### Description of the Problem

##### Designated beneficial uses of Long Branch Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation

##### Use that is impaired

- Protection of Warm Water Aquatic Life

##### Standards that apply

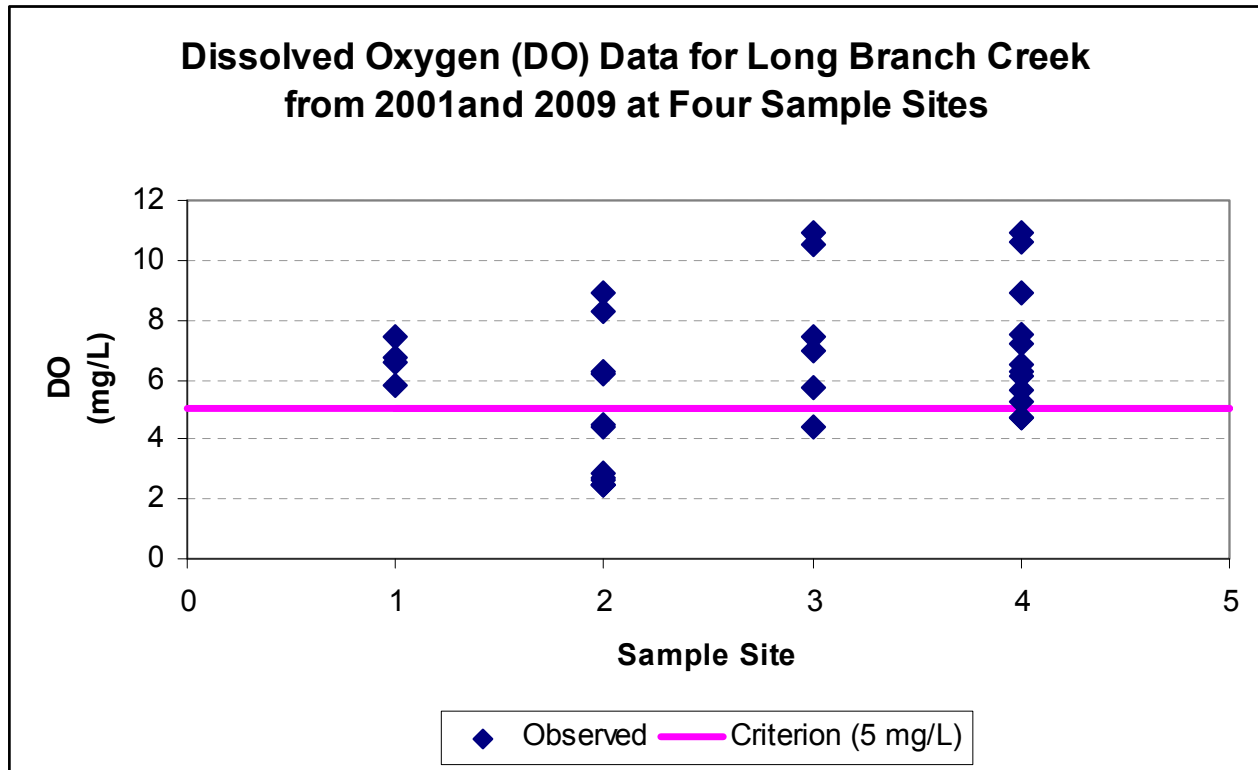
- In the Missouri Water Quality Standards, found in 10 CSR 20-7.031 Table A, the criterion for dissolved oxygen, or DO, in streams is a minimum of 5 mg/L (milligrams per liter or parts per million).

##### Background Information and water quality data

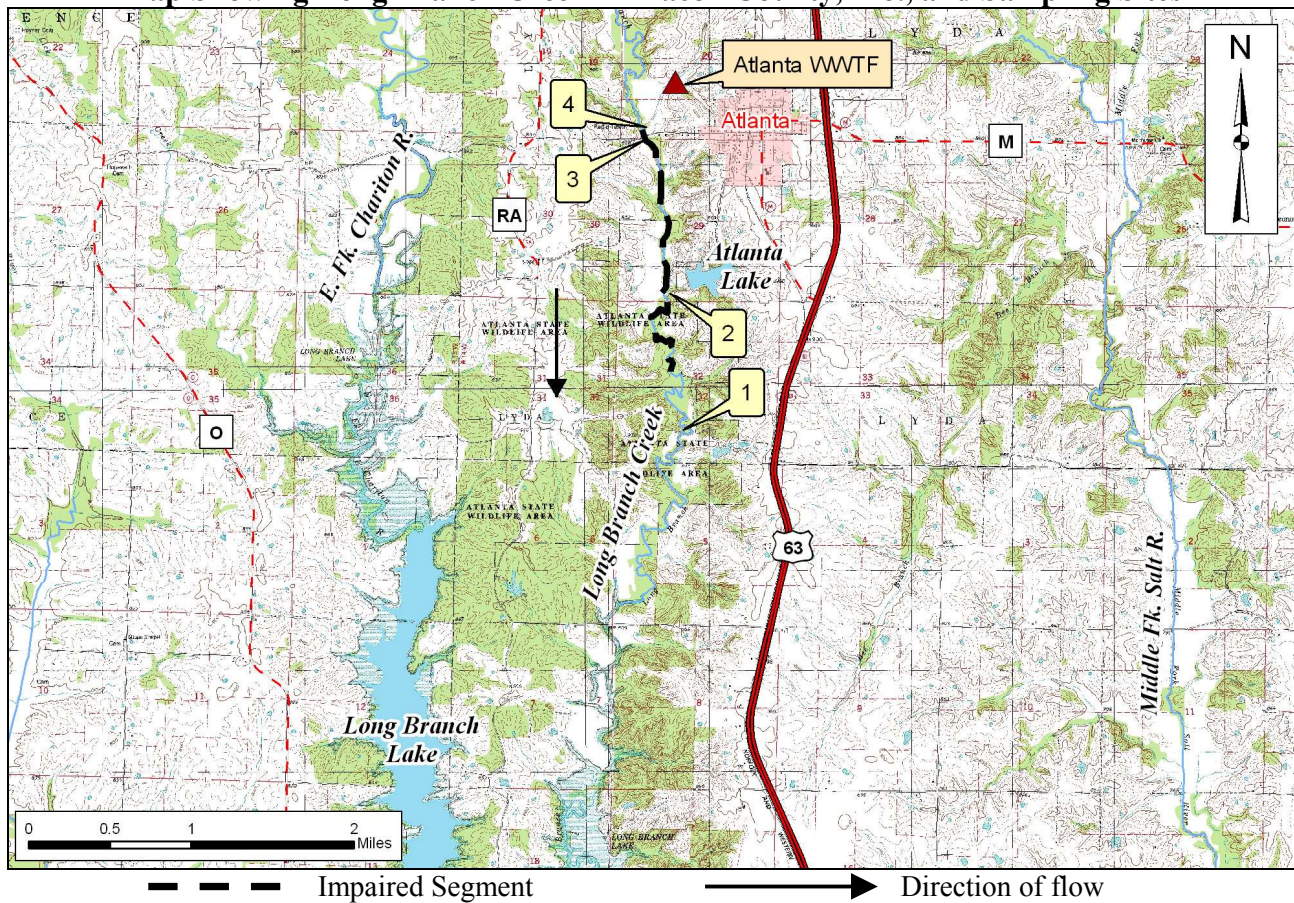
The Atlanta Wastewater Treatment Plant, or WWTP, discharges to Long Branch Creek in Macon County, Missouri. Water quality conditions in Long Branch Creek are not protective of aquatic life. The department conducted a routine wasteload allocation study (a water quality study) in 2001 and 2009 and found that several instream dissolved oxygen measurements failed to meet the water quality criterion. For dissolved oxygen, if more than 10 percent of measurements in a water body fail to meet the water quality criteria, that water body is judged to be impaired. In the case of Long

Branch Creek, nine of 22 samples (41 percent) collected downstream of the Atlanta WWTP did not meet the water quality criterion. Many sample points in the graph below overlap.

Wastewater effluent that is high in biochemical oxygen demand, or BOD, will lower the dissolved oxygen in a stream and stress, or be lethal to, the aquatic organisms that require dissolved oxygen to survive. Like all wastewater discharges in Missouri, the Atlanta WWTP must meet the requirements of a discharge permit issued by the Missouri Department of Natural Resources. The limits in this permit can be adjusted to prevent the creek from being impaired.



**Map Showing Long Branch Creek in Macon County, Mo., and Sampling Sites**



**Sample Sites**

- 1 – Long Branch 2.7 mi. below Atlanta WWTF\*
- 2 – Long Branch 1.5 mi. below Atlanta WWTF
- 3 – Long Br. at Marion St
- 4 – Long Branch 0.1mi.above Atlanta WWTF tributary

\*WWTF = wastewater treatment facility

The final Long Branch Creek TMDL will be based on the most current available data and information. For TMDL status or additional information, please contact the Water Protection Program.

**For more information call or write:**

Missouri Department of Natural Resources

Water Protection Program

P.O. Box 176, Jefferson City, MO 65102-0176

1-800-361-4827 or 573-751-1300 office or 573-522-9920 fax

Program Home Page: [www.dnr.mo.gov/env/wpp/index.html](http://www.dnr.mo.gov/env/wpp/index.html)